Abstract

In the partial thermochemical vacuum treatment of metallic workpieces (1), in particular in the carburization and case hardening of workpieces (1) of case-hardening steel in a carbon-containing atmosphere, surface regions (3, 4, 5, 6) to be treated and surface regions not to be treated abut one another. In order to restrict the surface treatment to the cavities (2) of the workpieces (1) the external surface regions not to be treated are covered by reusable dismountable mould bodies (11) of a temperature-resistant material with at least one mould cavity (15). In this connection the mould body (11) consisting of a lower part (12) and an upper part (13) with openings (12b, 13b) encloses several workpieces (1) in such a way that no treatment takes place on the external surface regions of the workpieces (1). An electrically conducting mould body (11) is suitable in particular for a thermochemical treatment under the action of a plasma. Graphite or CFC is used as material for the mould bodies (11). In such a mould body the workpieces can be subjected before the carburization to a heating procedure, as well after the carburization to procedures such as diffusion, gas quenching and optionally further treatments such as deep cooling and/or annealing.

(Figure 1)